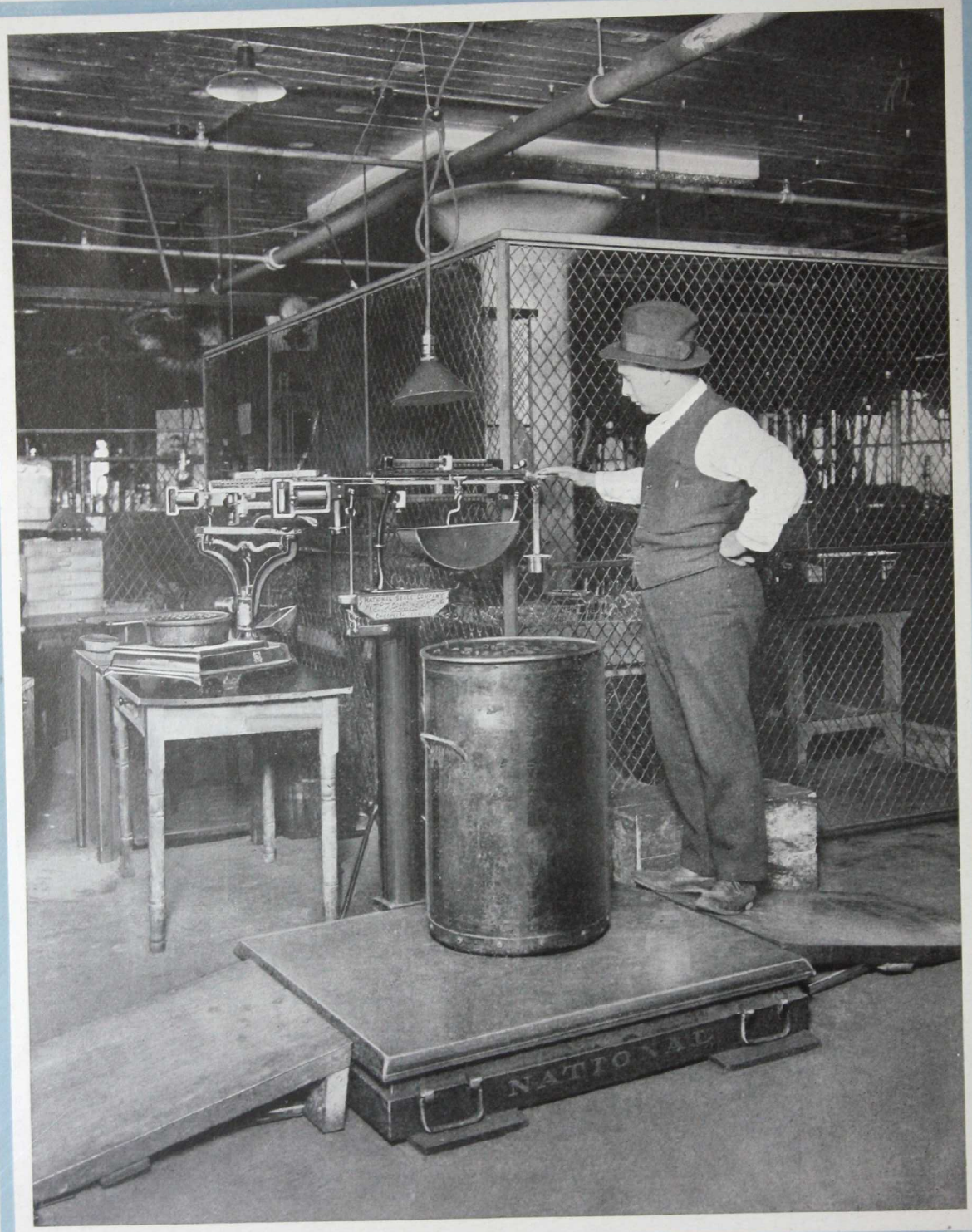
NATIONAL COUNTING AND WEIGHING MACHINES



INSTEAD of a handful, counting a barrel full on a No. 201-Z National Counting Machine at the plant of Stewart-Warner Speedometer Corporation, Chicago, Ill.

WHAT THEY WILL DO

NATIONAL COUNTING MACHINES give an accurate and quick count of any commodity, consisting of similar parts or pieces, without the use of tabulated figures of weights, mental calculation, or figuring of any kind. The total count of the contents of any box, barrel, bag, truck, or barrow containing an unknown number of like parts or pieces can be determined accurately and almost instantly.

There is no chance for confusion of figures, errors in estimates, or defective calculations, as the accuracy of the count is governed mechanically. Mental fallibility is eliminated and from fifty to ninety per cent. of time and labor is saved over every other known method or device employed for the purpose of counting.

The method is one of ratio weight, scientifically applied in a simple machine of few parts, which any ordinary laborer can operate and understand.

While knowledge of the weight of the material handled is at no time a feature in obtaining count, yet whenever it is so desired, weight and count may be secured at practically one operation.

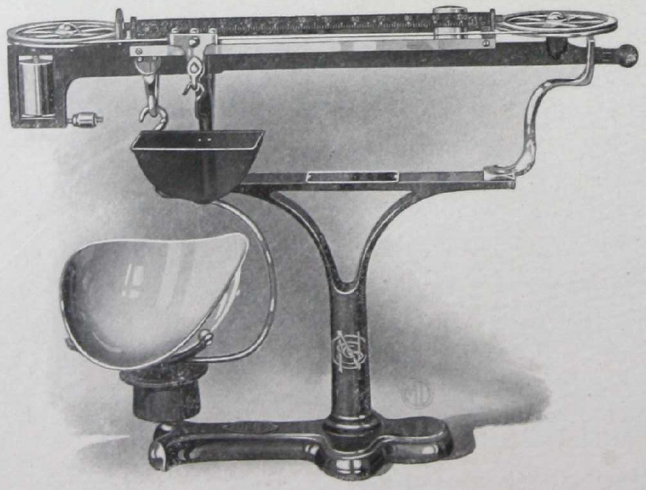
National Counting Machines are used for counting various classes of manufactured material, and material in process of manufacture. In shipping room, receiving room, packing room, stock room, store room, for piece work operations, inspection work, inventory work, cost and estimating departments, stationery and advertising departments, and for any and all places where checking, counting and weighing have to be done, these machines are being successfully used and have proven invaluable.

On the following pages we give descriptions of the twenty-seven types and sizes of National Counting Machines, together with a list of many varieties of materials in the handling of which they are used extensively.

"Instead of a Handful Count a Barrel Full"

ID 90-B6445 TEF

National Counting Machines are found at work in almost every industry. The machines shown here are counting medicinal tablets for Bristol-Myers Co., Manufacturing Chemists, Brooklyn, N. Y. — saving hours of laborious hand counting.



No. 91

(Ratio 5 to 1)

Accurately counts pieces weighing 250 to ounce and over

Standard machines graduated to count in units. All agate bearings. When desired, special machines will be furnished to count by the dozen or gross.

Load Capacity

5 lbs.

Shipping weight of this machine 70 lbs.

See Special Notice on Page 16

Like hundreds of other efficient firms the Pyrene Mfg. Company, New York City, wastes no time in band counting material. National Counting Machines do the counting.

No. 92

Adapted especially for Watch and Jewelry Manufacturers

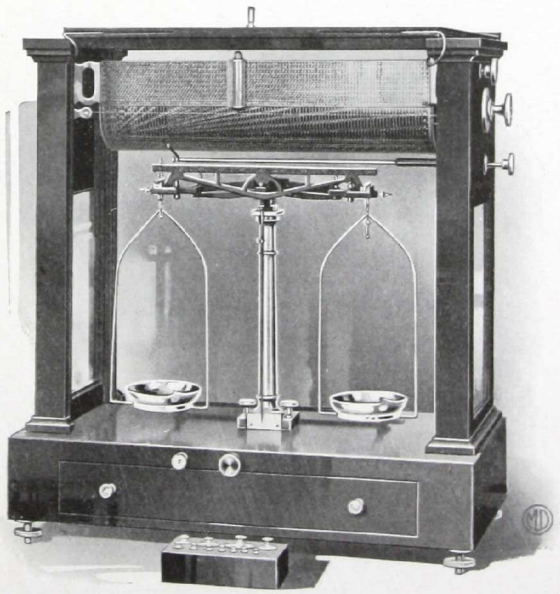
A machine which counts pieces weighing 25,000 to the ounce and larger. The extreme sensitiveness of this machine enables it to accurately count pieces too tiny for the eye to see.

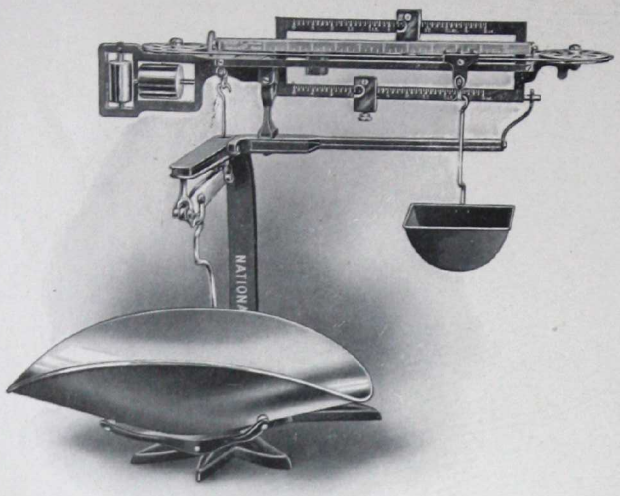
Load Capacity

8 ounces

Shipping weight of this machine 100 lbs.

See Special Notice on Page 16





No. 95

(Ratio 20 to 1)

Accurately counts pieces weighing 1-50 ounce and over

Equipped with double weighing beam. Both bars graduated by ½ oz. to 2½ lbs. Agate bearings.

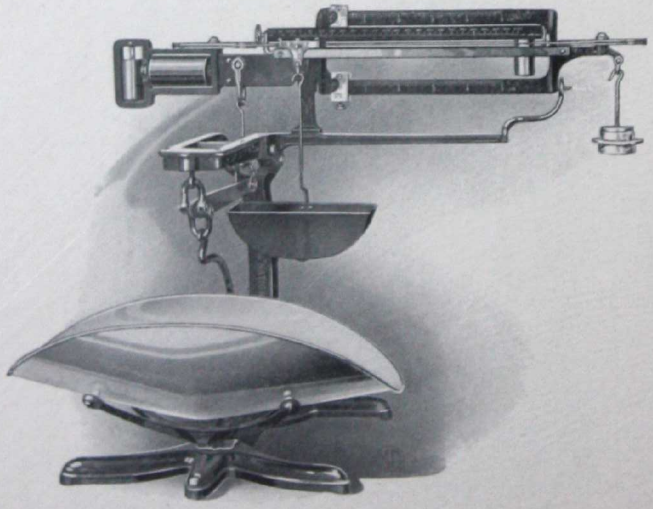
Load Capacity

5 lbs.

Standard machines graduated to count in units. When desired, special machines will be furnished to count by the dozen or gross.

Shipping weight of this machine 70 lbs.

See Special Notice on Page 16



No. 96

(Ratio 25 to 1)

Accurately counts pieces weighing 1-32 ounce and over

Regularly equipped with double weighing beam. Hanging platform, with platform scoop, can be supplied on either this model or model 95. Both bars graduated by ½ oz. to 5 lbs. Agate bearings.

Load Capacity

25 lbs.

Standard machines graduated to count in units. When desired, special machines will be furnished to count by the dozen or gross.

Shipping weight of this machine 140 lbs.

See Special Notice on Page 16

No. 97

(Ratio 50 to 1)

Accurately counts pieces weighing 1-4 ounce and over

Equipped with double weighing beam. Both bars graduated by 1 oz. to 10 lbs. Graduated counterpoise and weights. Size of platform, 12 x 15 inches. Scoop furnished as standard equipment. Agate bearings.

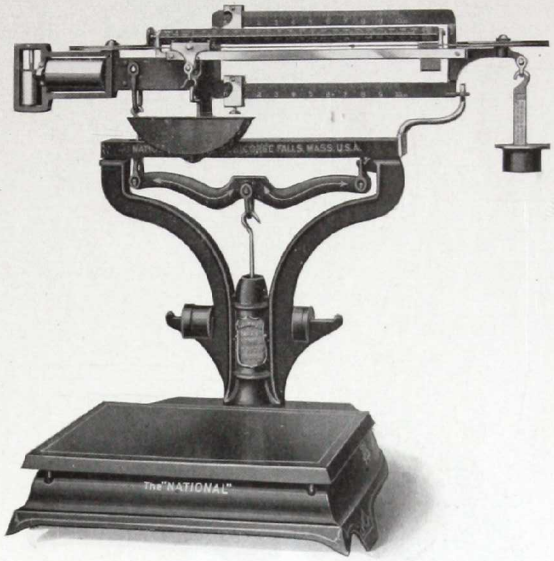
Load Capacity

100 lbs.

Standard machines graduated to count in units. When desired, special machines will be furnished to count by the dozen or gross.

Shipping weight of this machine 150 lbs.

See Special Notice on Page 16



No. 97½

(Ratio 100 to 1)

Accurately counts pieces weighing 1-4 ounce and over

Equipped with double weighing beam. Upper bar graduated by 1 oz. to 10 lbs. Lower bar, 2 oz. to 20 lbs. Size of platform, 13 x 19 inches. Scoop furnished as standard equipment. Agate bearings.

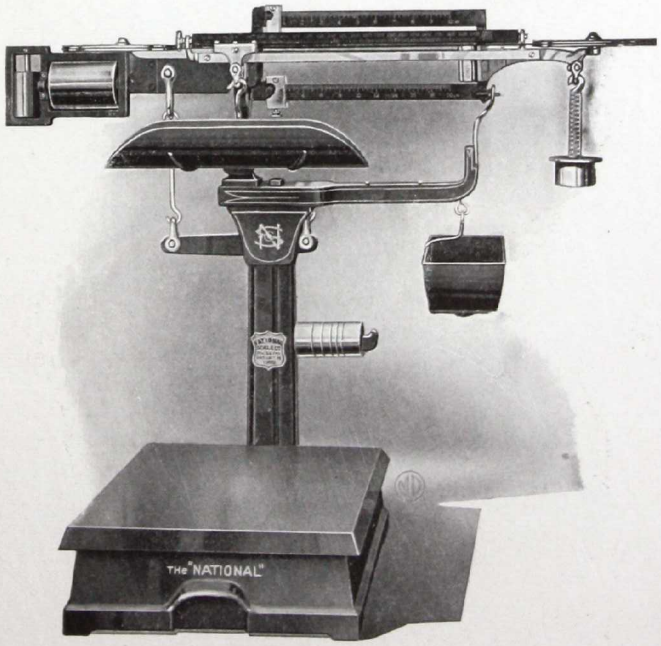
Load Capacity

300 lbs.

Standard machines graduated to count in units. When desired, special machines will be furnished to count by the dozen or gross.

Shipping weight of this machine 180 lbs.

See Special Notice on Page 16



Nos. 98 and 99 Portables

(Ratio 200 to 1)

Accurately count pieces weighing 1 ounce and over

Equipped with double weighing beam. Both bars graduated by ½ lb. to 100 lbs. Graduated counterpoise and weights. Agate bearings.

No. 98—Iron platform 24 x 24 in.; capacity, 600 lbs.
No. 99—Iron platform 28 x 28 in.; capacity, 1,000 lbs.

Standard machines graduated to count in units. When desired, special machines will be furnished to count by the dozen or gross.

Shipping Weights { No. 98, 315 lbs. / No. 99, 390 lbs.

See Special Notice on Page 16

Nos. 201 - 202 - 203 Portables

(Ratio 200 to 1)

Accurately count pieces weighing 2 ounces and over

Equipped with double weighing beam. Both bars graduated by ½ lb. to 100 lbs. Graduated counterpoise and weights. Agate bearings.

No. 201—Iron platform 44 x 35 in.; capacity, 1,000 lbs.
No. 202—Iron platform 44 x 35 in.; capacity, 1,500 lbs.
No. 203—Iron platform 44 x 35 in.; capacity, 2,000 lbs.

Standard machines graduated to count in units. When desired, special machines will be furnished to count by the dozen or gross.

Shipping weights { No. 201, 750 lbs. / No. 202, 830 lbs. / No. 203, 900 lbs.

See Special Notice on Page 16

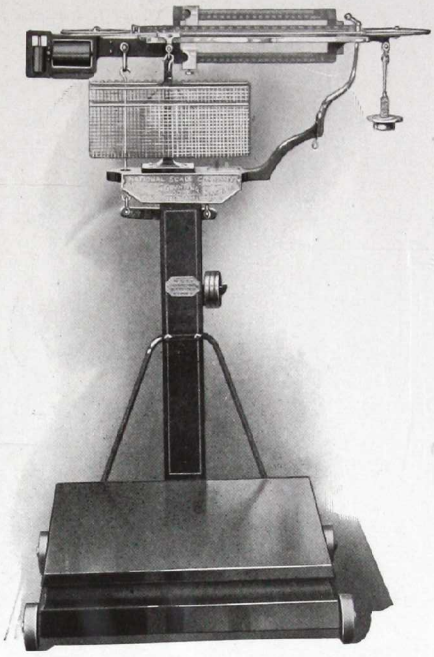
Style Z

Construction as shown has been designed for use where extra large ratio-pans are required for counting bulky material. It can be furnished on machines of the following sizes, Nos. 98, 99, 201, 202, 203, 300, 301, 302, and Narrow Aisle Model.

In ordering this construction, write "Z" after number of machine desired.

Shipping Weights — The shipping weights of machines fitted with Z Type construction are identical with the cataloged weights of standard models of the same number.

See Special Notice on Page 16



Nos. 300-301-302 Wheelbarrows

(Ratio 200 to 1)

FOR FACTORY AND WAREHOUSE

Accurately count pieces weighing 2 ounces and over

Equipped with double weighing beam. Both bars graduated by ½ lb. to 100 lbs. Graduated counterpoise and weights. Agate bearings.

No. 300—Iron platform 44x35 in.; capacity, 1,000 lbs.

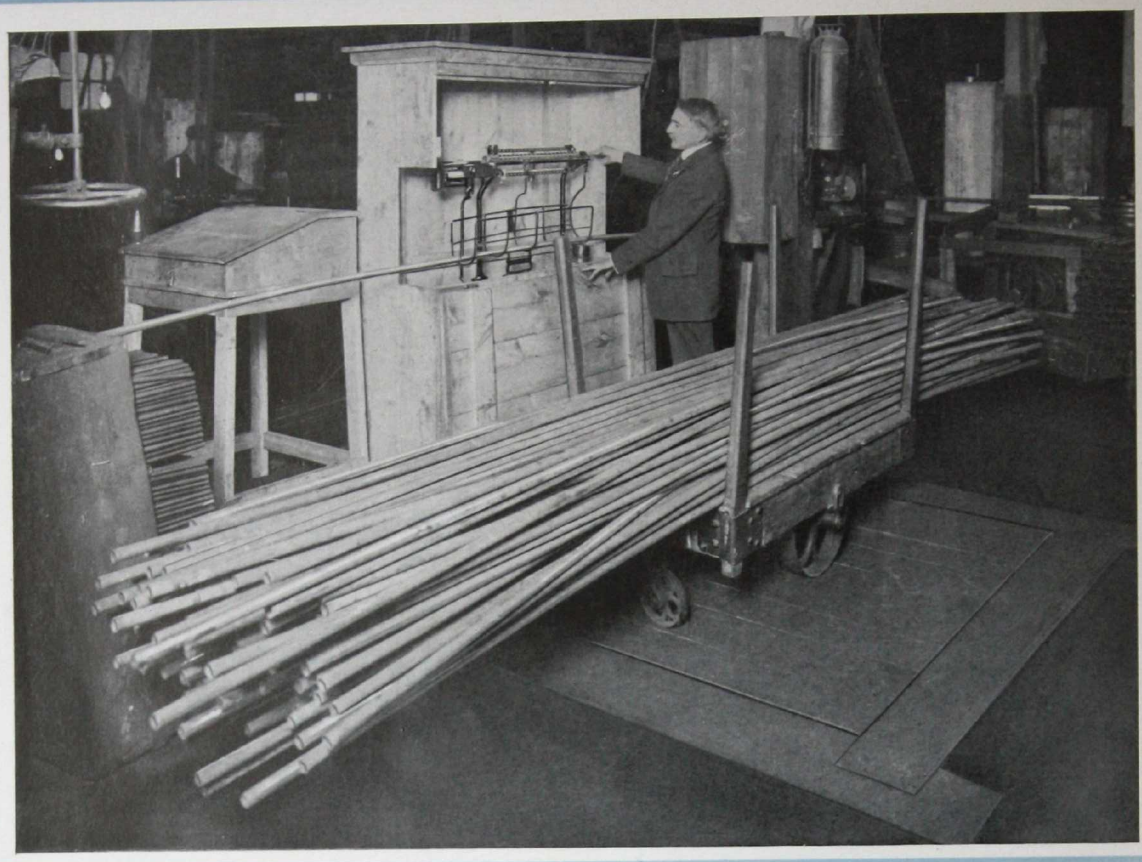
No. 301—Iron platform 44x35 in.; capacity, 1,500 lbs.

No. 302—Iron platform 44x35 in.; capacity, 2,000 lbs.

Standard machines graduated to count in units. When desired, special machines will be furnished to count by the dozen or gross.

Shipping Weights { No. 300, 1,000 lbs. / No. 301, 1,025 lbs. / No. 302, 1,050 lbs.

See Special Notice on Page 16



After each one of fourteen different operations these tubes are counted on a National Counting Machine, Dormant Type. The machine shows in one minute the number of tubes contained in the load on the truck. Newark Tube & Metal Works, Inc., Newark, N. J.

Narrow Aisle Model

(Ratio 200 to 1)

Accurately counts pieces weighing 1 ounce and over

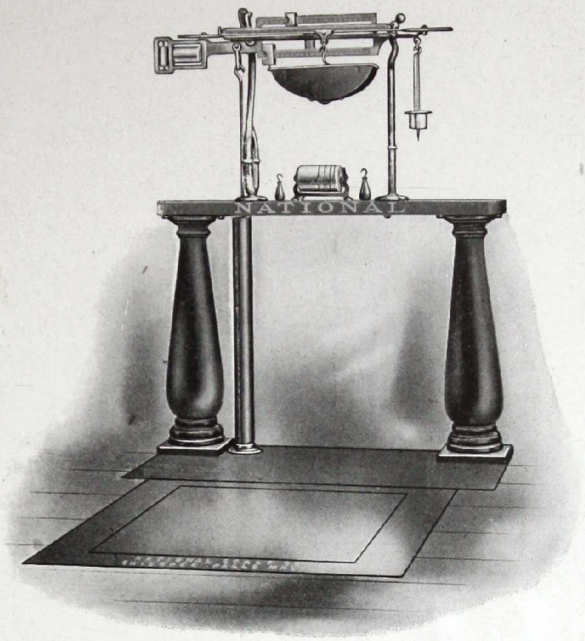
This machine has been designed for use in narrow aisles. It has swivel front wheels and a handle bar by which it can be hauled wherever desired. Equipped with double weighing beam. Both bars graduated by ½ lb. to 100 lbs. Graduated counterpoise and weights. Agate bearings.

Iron platform 16 x 24 in.; capacity, 600 lbs.

Standard machines graduated to count in units. When desired, special machines will be furnished to count by the dozen or gross.

The shipping weight of this machine is 300 lbs.

See Special Notice on Page 16



Dormants

Designed Especially for Factory and Warehouse Use

EQUIPPED with double weighing beam. From Nos. 100 to 400, inclusive, all upper weighing bars are graduated by ½ lb. to 100 lbs. All lower weighing bars are graduated by 1 lb. to 200 lbs. From Nos. 502 to 506, inclusive, all upper and lower weighing bars are graduated by ½ lb. to 200 lbs. Graduated counterpoise and weights. Agate bearings.

In ordering Dormant Machines, state whether it is desired to operate the beam, which has the counting and weighing device, from the platform side or from the rear of the machine.

Standard machines are graduated to count in units. When desired, special machines will be furnished to count by the dozen or gross.

In all platform sizes the first figure denotes the dimension parallel with beam. Lumber for platform and frame NOT furnished on the 500 series.

No.	RATIO 200 TO 1		Min. Weight of Pieces Accurately Counted	Shipping Weights of Machines	No.	RATIO 400 TO 1		Min. Weight of Pieces Accurately Counted	Shipping Weights of Machines
	Size of Platform	Load Capacity				Size of Platform	Load Capacity		
100	36 x 38	2,000 lbs.	2 oz.	825 lbs.	502	72 x 48	3,500 lbs.	3 oz.	1,400 lbs.
101	43 x 45	2,500 lbs.	2 oz.	1,090 lbs.	503	72 x 48	5,000 lbs.	3 oz.	1,500 lbs.
102	48 x 48	3,500 lbs.	3 oz.	1,245 lbs.	504	72 x 48	6,000 lbs.	3 oz.	1,600 lbs.
103	48 x 54	5,000 lbs.	3 oz.	1,355 lbs.	505	72 x 48	8,000 lbs.	3 oz.	1,650 lbs.
104	48 x 54	6,000 lbs.	3 oz.	1,380 lbs.	506	72 x 48	10,000 lbs.	3 oz.	1,700 lbs.
400	46 x 38	2,000 lbs.	2 oz.	910 lbs.					

See Special Notice on Page 16

Using the National Counting Machine to get the correct net weight of silk wound on spools. Hundreds of spools are sometimes handled at one operation by using a sufficiently large receptacle on the platform. Photograph taken at the mill of J. A. Migel, Silk Manufacturer, West Hoboken, N. J.

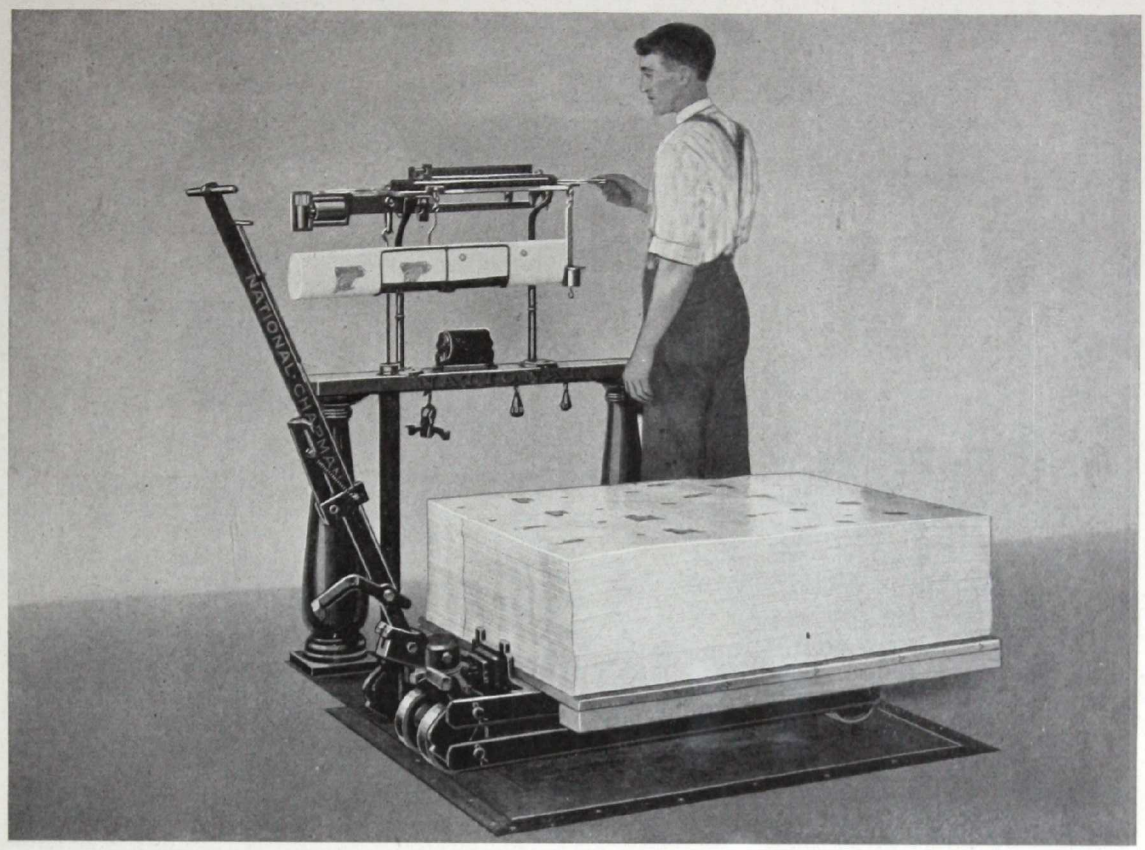
SPECIAL NOTICE

UNLESS otherwise ordered, machines will be fitted with standard counting bars. These bars are graduated to count in units to meet the requirements of the majority of users.

Bars to count by the dozen or gross will be furnished when desired, and purchasers should be careful to state by which method they desire to count. Where a combination of methods is used, bars combining either two or three methods will be supplied. Where gross count is used and unit gross is other than 144, the standard desired should be specified. Special bars are subject to slight delay in shipment.

The weight of the pieces in any one load on the platform should not exceed the load capacity of the machine.

In ordering by mail, specify the size, shape, and minimum and maximum weights of the pieces to be counted, that proper receptacles may be furnished as ratio-pans.



A load of printed sheets can be counted on a National Counting Machine without removal from the elevating truck. Photograph taken at Bartlett-Orr Press, New York City.

STRUCTURAL FEATURES

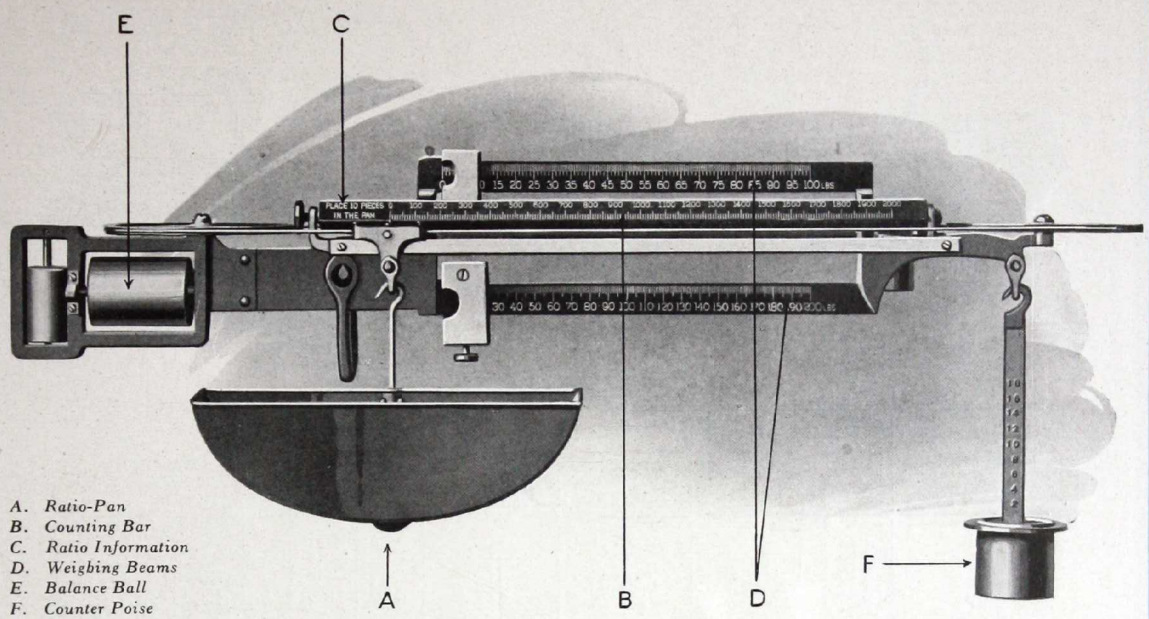
NATIONAL COUNTING MACHINES are not only accurate and practical counting devices, but are also weighing machines of unexcelled accuracy and durability. Only the best of materials are used in these machines and the workmanship, design and finish are of highest grade.

The major parts of the head are of brass, polished and heavily plated, while all other metal parts are finished in enamel. The head bearings on all machines are of agate, well protected. They positively will neither rust nor wear out in a lifetime of service. Agate is nearly as hard as diamond, much harder than the best tempered steel. It is used exclusively where extreme accuracy is desired and friction must be avoided, adding to the sensitiveness and life of the machine. The steel pivots and hardened bearings are made of the best quality of steel procurable. All portable machine platforms are made of iron, and Dormant Machine platforms have solid iron frames with steel covered centres. Dormant platforms are fitted with bearing balls, making it impossible to throw the platform from its bearings with the thrust of a heavy load. All machines are tested with U. S. standard weights.

Both in counting or in weighing National Counting Machines are extremely sensitive, without being in any way delicate or fragile.

We manufacture Counting and Weighing Machines for all countries and equip them to operate under any desired standards.

IN this plant Dormant Type National Counting Machines accurately count bolts by the barrel full or wheelbarrow load. Graham Nut Co., Neville Island, Pa.



A. Ratio-Pan
B. Counting Bar
C. Ratio Information
D. Weighing Beams
E. Balance Ball
F. Counter Poise

Beam of The National Counting Machine

HOW TO COUNT

TO obtain the count of the contents of a box, or other package: First, set out the tare of the package on either one of the weighing beams. From the contents of the package, place in the ratio-pan on the counting bar the number of pieces required, as indicated by directions given on the bar. Move the pan along the bar until the beam is in balance. The indicator above the pan will then denote upon the counting bar the exact number of pieces contained in the package.

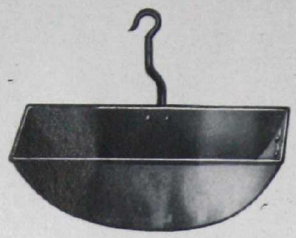
Where it is desired to count in lots of a specified number, say 1,000, set out the tare of the box or package, if one is used, set the indicator on the 1,000 mark, place the required number of pieces in the ratio-pan, fill the package until the beam is in balance, and 1,000 will be the number of pieces in the package.

Please note that the pieces placed in the ratio-pan are not weighed, nor is it necessary to know the weight of individual pieces at any time. It is also to be noted that the count obtained on the bar covers the platform load only — not the pieces in the ratio-pan.

The counting capacity of any machine is limited only to its load capacity. By doubling or multiplying the number of pieces placed in the ratio-pan, the capacity of the counting bar is similarly doubled or multiplied. By this method a machine with a counting capacity of 10,000 pieces may be made to count into the hundreds of thousands, provided the load capacity of the machine is not exceeded.

Where weight is required in addition to count, it is obtained in the same manner as upon any weighing machine. The position of the ratio-pan, when empty, does not interfere with weighing, but when any material is in the pan it must either be removed or the pan set at zero. With the pan at zero, it may be empty or filled, or may be removed entirely, without affecting the balance.

National Counting Machines are often used to count material which does not run in uniform weights, such as rough castings, etc. This is accomplished by making slight changes in the number of pieces placed in the ratio-pan, to cover the variation in the material being handled.



Barge Shape—Style A

Clamp

Open End—Style B

RATIO-PANS AND CLAMPS

SCALE OF MEASUREMENTS IN INCHES

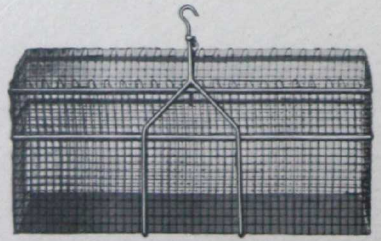
No. of Machine	BARGE SHAPE A			OPEN END B			OBLONG D			CLAMP
	L.	W.	D.	L.	W.	D.	L.	W.	D.	
91	3¼	3	2							
95	3¼	3	2							
96	8½	3½	2¾							
97	6½	3	2¼	8½	3½	1½	8¼	3	2½	Clamps are made in the form of a vise-jaw, in various sizes, suitable for different classes of work. They are used for holding sheet-metal, stationery, and articles too large to place in regular ratio-pans.
97½	11	4	3½	13	5	2	13	3¼	2½	
98	11	4	3½	13	5	2	13	3¼	2½	
99	11	4	3½	13	5	2	13	3¼	2¾	
201	11	4	3½	13	5	2	13½	5	2¾	
202	11	4	3½	13	5	2	13½	5	2¾	
203	11	4	3½	13	5	2	13½	5	2¾	
300	11	4	3½	13	5	2	13½	5	2¾	
301	11	4	3½	13	5	2	13½	5	2¾	
302	11	4	3½	13	5	2	13½	5	3½	
100	12½	4¼	4	13	5¼	2	13½	5½	3½	
101	12½	4¾	4	13	5¾	2	13½	5½	3½	
102	12½	4¾	4	13	5¾	2	13½	5½	3½	
103	12½	4¾	4	13	5¾	2	13½	5½	3½	
104	12½	4¾	4	13	5¾	2	13½	5½	3½	
400	12½	4¼	4	13	5¼	2	13½	5½	3½	
Nos. 502 to 506	14½	4½	5	13½	4½	2½	13½	6	3½	

The above table gives standard sizes of ratio-pans. Two ratio-pans are furnished with each machine, excepting numbers 91, 95, 96, which have one pan only. Style "Z" machines furnished with one regular pan, either A, B, or D, as shown above, and one C pan 15½ in. long, 4¾ in. wide, 7 in. deep. Special ratio-pans can be provided to meet unusual requirements.

Platform Scoop

Special Platform Scoops

We furnish a platform scoop in special size, 28"x14½"x9", suitable for handling buttons and similar articles. This is used principally in connection with Nos. 97 and 97½. Additional price.



Basket—Style C for "Z" Models

Oblong—Style D

NATIONAL COUNTING AND WEIGHING MACHINES

NATIONAL COUNTING MACHINES are being used successfully in factories where the following goods are manufactured, and in Ware and Store houses where many parts and pieces are counted. They have entered more than one hundred industries and are being operated in single units and in groups up to one hundred machines or more to a single firm.

Adding Machines
Advertising Matter
Agricultural Implements
Aluminum Goods
Automobiles
Baby Carriages
Badges
Bicycles
Bobbins and Shuttles
Bolts and Nuts
Boxes
Brass Goods
Builders' Hardware
Buttons
Cameras
Cash Carriers
Cash Registers
Casters
Celluloid
Chemicals
Chewing Gum
Clocks
Collars
Combs
Composition Goods
Crayons
Cork
Cutlery
Dairy Supplies
Dental Supplies
Drop Forgings
Electrical Goods
Electrical Railways
Elevators
Enamel Ware
Firearms
Fire Extinguishers
Fixtures
Furniture
Glass
Hardware Specialties
Hooks and Eyes
Iron
Jewelry
Keys
Knives
Lamps
Liquids
Lock Nuts
Locks
Locomotives
Lubricator Cups
Machinery
Malleable Iron
Matches
Metal Stampings
Metal Ware
Meters
Motors
Musical Instruments
Needles
Novelties
Oiling Devices
Oil Well Supplies
Optical Goods
Organs
Paper
Photographic Supplies
Piano Actions
Pills and Tablets
Pins
Platings
Plows
Plumbers' Supplies
Porcelains
Printing Presses
Printed Matter
Proprietary Medicines
Pumps
Regalias
Rings
Rivets
Rubber Goods
Sanitary Ware
Screws
Sewing Machines
Ship Supplies
Shoe Findings
Soap
Specialties
Spokes and Nipples
Springs
Stationery
Steel
Stoppers
Stoves
Taps and Dies
Telegraph Material
Telephones
Tin Ware
Tools
Toys
Trunks
Typewriters
Wagons
Watch Cases
Watches
Wire Goods
Wooden Ware
Wringers
Zinc Ware

Special lists of users in any line will be forwarded on request

GUARANTEE

NATIONAL COUNTING AND WEIGHING MACHINES are guaranteed for ONE YEAR from DATE of purchase against flaws in material and imperfections in workmanship, and we will replace WITHOUT CHARGE any defective parts, which may be returned to us within said period.

NATIONAL SCALE COMPANY

All Shipments of Counting and Weighing Machines made
F. O. B. CHICOPEE FALLS, MASS.

THESE casters would have to be counted singly, if counted by hand. The National Counting Machine accurately counts them by the barrel full. Photograph taken at Universal Caster & Foundry Co., Newark, N. J.